

# Hobbies

## WEEKLY

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## Full size Patterns for a MODEL SEDAN CHAIR

SEDAN chairs originated in the town of Sedan, France, and were first used in England in 1581, becoming very fashionable as a conveyance in 1650 until 1750 or thereabouts. It was a novel, simple, convenient form of carriage, easily managed by two bearers. In those distant days, of course, the only

individuals possessing dignity were the elite, with plenty of money to spend on style and hired servants.

#### A Good Job

Since many of the jobs in the 17th and 18th century were really tough, the carrying of a wealthy person in a special chair was a form of employ-

ment which, apart from being easy and having other good points, was considered an honour, particularly in the case of noblemen.

As a matter of interest, we give a design for a simple form of Sedan chair, and to make the illustration of the finished model more picturesque, we show it in the hands of two bearers. You could, if desired, make models of the figures, using wood and plastic modelling substances.

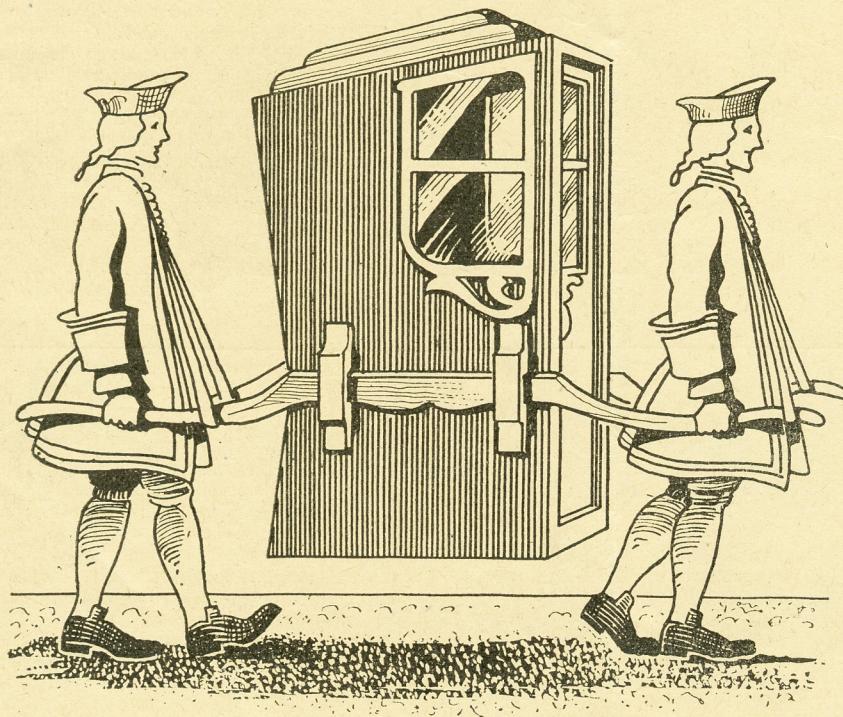
Note that, apart from holding the shafts with their hands, the shafts are also supported by a neck strap so that, if necessary, the bearers could release one or both hands. The straps are an auxiliary support which helped to ease the strain on the arms.

Apart from the diagrams here, a page with full size patterns of parts is provided. These are on page 23 and can be traced through carbon on to wood or be pasted down for direct cutting.

#### Cellophane for Glass

The windows in the model are made with transparent paper or cleaned negative film. These materials are simply glued to one side of the window overlays then glued against the window apertures cut in the body sides and the door. A somewhat primitive seat is provided within the body of the work, it consisting of three shaped pieces of  $\frac{1}{4}$  in. wood.

The door, made a fixture, could be hinged to open outwardly. The trouble here, however, is getting suitable hinges, since the door is only an  $\frac{1}{4}$  in. thick. It could be pivoted at the top and bottom at one side edge,



which means that this edge must be rounded. Panel pins could be used as pivots. A strip of adhesive tape could, however, be used instead of metal hinges.

### Construction of Body

We show the overlays on their respective patterns. To go about matters correctly, take a tracing of the body side and the door, and include the window apertures. You

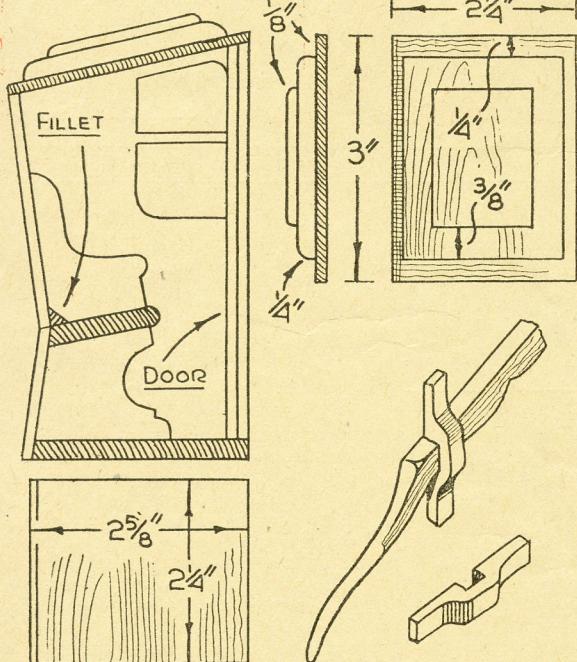


Fig. 1—Sectional side view with details of top and shafting

require a repeat shape of the body side piece, of course.

The top and bottom pieces of the body are detailed at Fig. 1. The bottom is cut from  $\frac{1}{4}$  in. wood, and the top from  $\frac{1}{8}$  in. stuff. The top and bottom is nailed between the sides, following which the backing pieces, cut from  $\frac{1}{8}$  in. wood and fitted neatly into position, are attached.

The seat sides are glued within the body, against the body sides, then the seat inserted into position, with a triangular corner fillet added, as shown in the sectional view. By the way, fit the seat parts together unglued and try the seat inside the body prior to fixing in with glue.

Complete the bodywork by building a cornice on the top, using  $\frac{1}{8}$  in. and  $\frac{1}{4}$  in. wood. It is only necessary to round over the edges and ends of the oblongs of wood, which are shown at Fig. 1, on top of the roof piece. Before adding the cornice pieces, have the roof levelled off with glasspaper.

### The Door

The door is cut from  $\frac{1}{8}$  in. wood, as stated. Its overlay is cut from  $\frac{1}{8}$  in. or  $1/16$  in. wood or card. Cellophane or cleaned film is attached to one side of the overlay on the glazing material.

Make sure that there are no wrinkles in the transparent paper, if used. Slight wrinkles, due to the adhesive, will undoubtedly dry out. Try not to have glue smears on the glazing material, as the glue is difficult to remove. If you use

celluloid film, the best adhesive is a film cement.

The inside of the body is painted brown, including the seat. The door, at the inside, is also painted brown. When dry, the door is attached in place with glue and panel pins, or pivoted to swing open, as explained earlier.

The body window overlays, like the

door overlay, are affixed, having attached the glazing material to them. While these are drying on, make the shafts. These are cut from  $\frac{1}{4}$  in. wood and shaped to form handles, as shown.

Now, the shafts are glued to the body sides, and fixed with a couple of  $\frac{1}{8}$  in. gimp pins. The wooden holders, which are cut from  $\frac{1}{4}$  in. wood, are merely ornamental, so to speak, being merely glued over the shafts against

### Full size patterns for most parts on page 23

the body sides. You could affix them with gimp pins, if desired, for the sake of realism, but the wood can be easily split if the pin holes are not drilled beforehand.

This completes the model which may be finished royal blue, with black shafting and overlays. A combination of silver and gold paint would be too showy. Sedan chairs were just a form of carriage without wheels and should, therefore, have the finish of a carriage body.

### Model Bearers

We mentioned the idea of having the chair supported by model bearers. These bearers should have a "core" of shaped wood and wire arms on which to "drape" the modelling clay. Putty could be used as a modelling medium, but will take days to harden properly.

Pyruma or Plastone cement could be used. This can be hardened near a fire, or in an oven. Plaster-of-paris may also be used, including Alabastine, which is a form of hard wall finish material, ideal for stopping up cracks in walls and ceilings.

It dries quite hard in about two hours, and can be modelled in the dry state, or rather, it can be trimmed and pruned when dry, in which state it is like a hard chalk, easily smoothed, ready for painting. A coat of thin glue size prevents undue absorption of the paint. Alabastine is obtainable at most wallpaper and paint shops.

### Radio Symbols—(Continued from page 15)

**H.T. Plus.** The Secondary to Grid and Grid Bias.

### Other Symbols.

The sign usually used for Earphones is shown in Fig. 3. Sometimes the letters "Ph" are used instead. Such phones are high-resistance types, usually from about 500 to 2000 ohms.

The Crystal Detector sign is the same as a rectifier, because this is what the Detector does. They allow current to flow in one direction only, and many different kinds are available.

Often the letter "S" shows where the Speaker is to be connected. But

sometimes the signs given are used. Moving-Coil Speakers have a transformer, the Primary "P" being connected to the Output Valve Anode and H.T. Plus.

Where Speakers or Phones have polarity indicated (Red=Plus), this should be observed. Plus always goes to H.T. Plus.

### Wiring, Fuses, Switches

Leads that cross without connection and leads that are joined, are shown in Fig. 3. The signs for Fuses are also shown, the upper symbol being most used. Such fuses are often included in the High Tension Minus lead, to

protect the battery and other parts against short-circuit.

In Figs. 1 and 2 ordinary single-pole switches are shown. If a 3-point switch is used, it is indicated as in Fig. 3. Fig. 3 also shows how other switches are indicated. These are usually easily understood, heavy dots indicating the contacts, with a stroke or arrow for the switch-arm.

Numerous, circuits and wiring diagrams have appeared in *Hobbies Weekly* in the past, and if the constructor compares the theoretical circuit with the practical layout diagram he will rapidly learn how the various parts are indicated.

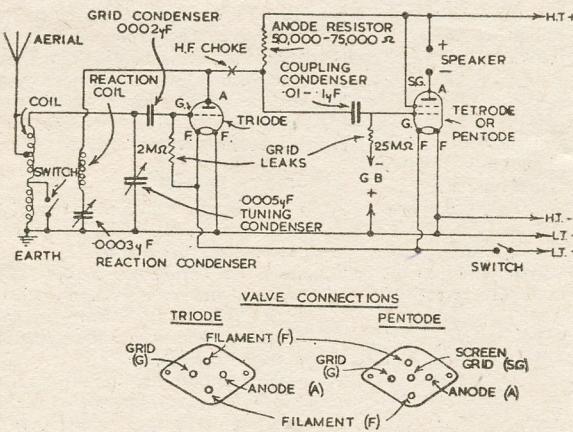
# An interesting and helpful article of explanation on RADIO PARTS SYMBOLS

THE symbols used in receiver circuits are logically contrived and need not remain a mystery. The constructor who understands them can follow diagrams with more confidence and assurance of success. There may be readers who are just taking up the hobby of wireless so we devote this week's article to a simple explanation of symbols and illustrations which should be very helpful.

## Theoretical Circuit

Fig. 1 gives the circuit of a complete two-valver. The parts are illustrated in Fig. 2, and a comparison should teach a lot.

Next to the Aerial and Earth symbols shown, comes the tuning coil. The top section is for Medium Waves. The bottom section (shown wound in two piles in Fig. 2) is for Long Waves, and is shorted out by a Wavechange Switch when Medium Waves are required. The reaction coil is placed between these windings. Its purpose is to feed back signals from the Detector Anode, thus increasing volume.



All windings must be in the same direction, as shown in Fig. 2. If connections to the reaction winding are reversed, no reaction will be obtained. With a former about 1 in. in diameter, 90 turns are required for the M.W. section, 80 for Reaction, and 200 (in two piles of 100) for Long Waves. About  $\frac{1}{4}$  in. is left between each section.

## The Condenser

Fig. 2 shows a typical Tuning Condenser, usually air-spaced. The Reaction Condenser is similar, but often has thin insulating material between the plates, so that it is smaller. This is better for reaction because the High Tension voltage exists across the plates, but not so

good for tuning, because of increased losses.

When wiring, the moving-plates tag or terminal is connected to Earth. This prevents the position of the hand near the tuning knob influencing tuning.

## Grid Condenser and Leak

These may be wire-ended, as in Fig. 2, or have terminals, or clip into holders. Condensers are usually marked in microfarads, abbreviated to MFD or  $\mu$ F, although some manufacturers are beginning to use the term  $\mu\mu$ F (micro-microfarad). This is one-million times smaller; e.g.  $200\mu\mu$ F = .0002  $\mu$ F;  $1000\mu\mu$ F = .001  $\mu$ F; and so on. Sometimes pF is used instead of  $\mu$ F. Condensers marked "500 $\mu$ F" or "500pF" or ".0005 $\mu$ F" or ".0005 MFD" are all the same.

On resistors, a sign like an inverted "U" ( $\Omega$ ) means Ohms". A Megohm = 1,000,000 ohms. Unfortunately some manufacturers are beginning to use the sign "K". This means "Thousands of Ohms". Therefore 100K, 100,000

ohms, or 1 Megohm, are all the same.

A Grid Leak is also used with the Output Valve (.25 megohms, or 250,000 ohms, in Fig. 1). This is to

If you are taking up wireless this article explains the standard symbols so you can read almost any circuit. Another article for the beginner will follow shortly.

allow bias to reach the grid, and allow grid current to leak away.

## H.F. Chokes

A High Frequency Choke is sometimes connected to the Detector Anode. It prevents signals passing, thus making them pass through the Reaction Coil. H.F. Chokes are shown in Fig. 2; "X" in Fig. 1 shows where they are wired.

## Valve-Holders

Fig. 1 also shows the connections for the most-used valves. A Triode may also be used for output. If so, a Power, or Small Power valve should be used, this handling more volume

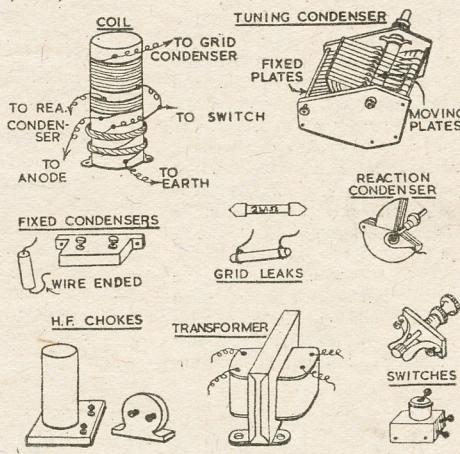


Fig. 2—Drawings of the actual components

than the Detector type used in the first holder.

Though Resistance Capacity Coupling is shown in Fig. 1, a transformer can be used. One is shown in Fig. 2. Often terminals or tags are provided for connections. If used in Fig. 1, the transformer would be connected as follows:—Tag "P" to Detector Anode (Plate), or to H.F. Choke, if used. Tag "HT" to High Tension about 60 volts. Tag "G" to Output Valve Grid. Tag "GB" to Grid Bias. The Anode Resistor, Coupling Condenser, and Leak shown, are not then required.

If a transformer is marked "P" and "S" this means Primary and Secondary. The Primary goes to Anode and

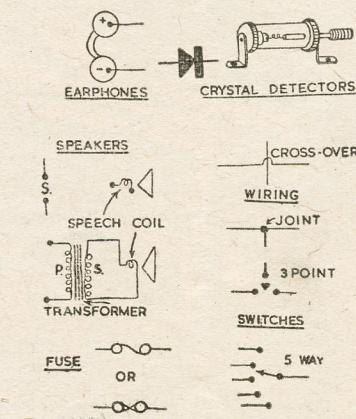


Fig. 3—Symbols of other parts

# Any gardener would appreciate this handy WHEELED GARDEN BOX

**W**E show here a very useful type of garden box suitable for use when cleaning up garden and lawn. Instead of carrying round a bucket and depositing rubbish and leaves in this, all we need do is to wheel it from place to place, and when full trundle it to the dump or compost heap.

It is designed for convenient use, with sloping front easy of access and with handle for tipping slightly to bring the wheels into use. The front foot keeps the box at the proper level during filling. At the rear is a useful triangular-shaped compartment for small tools such as trowel, hand-fork etc.

At Fig. 1 a side view is given, showing the general construction of the box, the overall height of which to the tip of the handle is 27ins. The box itself measures 12ins. wide, 10ins. high and 14ins. from back to front. It can be made up entirely from wood  $\frac{1}{2}$ in. thick, with the finish of paint work to brighten up.

## Box Sides

Start construction with the sides. Fig. 2 gives a detail of one of these, with all necessary measurements. Cut, for each side, two boards and clamp them together. Add the cross battens as shown for binding them firmly and for the nailing of the back and floor boards. The battens will, of course, be placed  $\frac{1}{2}$ in. in from the edges as shown and they should be about 1in. or so wide and  $\frac{1}{2}$ in. thick.

Where the two boards forming the side meet at the front, and on the angle, a long nail should be driven in to keep them close together at this point (see Fig. 3). Remember that a right and a left side must be laid out,

the fixing battens being on the inside for both sides.

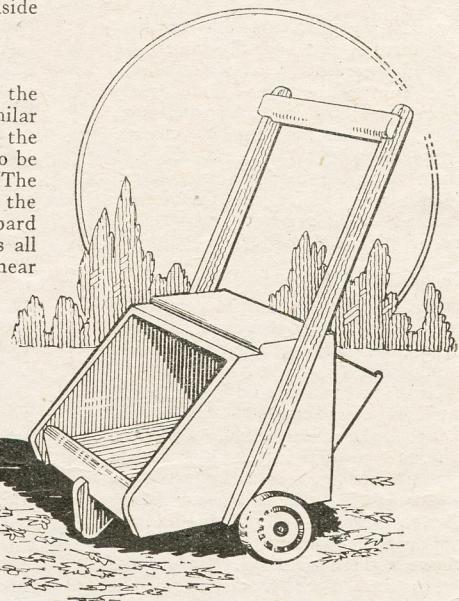
## General Framework

Two 5in. wide boards make the back of the box, while three similar boards constitute the floor. For the latter, the front board will need to be cut and planed to  $2\frac{1}{2}$ ins. wide. The front edge is chamfered to take the rake of the front narrow edging board (see Fig. 3). This diagram shows all the main boarding nailed up, the near side being omitted for sake of clearness. Note how the front board, which is 11ins. long, same as the other back and floor boards, has the top edge rounded and made smooth.

Having the sides, back, floor and front complete, we nail on the top board (Fig. 1). This is another 5in. wide board, 12ins. long, to come flush with the outer faces of the sides. The front edge of the board is rounded off as shown, and if additional strength is needed here again an 11in.-long board could be put between the sides to come just under the main top board. This added board is included in the box shown in the sketch illustrated.

## The Tool Pocket

The construction of the tool pocket is shown in Fig. 4. The two triangular bracket pieces are 4ins. long by 3ins. wide. The pocket is fixed to the box by screws inserted from the inside. The axle and supporting brackets for the wheels are put together as in Fig. 5, the depth of all three pieces of wood being  $1\frac{1}{2}$ ins.



The completed unit is screwed to the floor to the measurement given in Fig. 1 by screws through the floor of the box. The shape and size of the foot is shown in Fig. 6. This should be cut from stouter wood; or two pieces of  $\frac{1}{2}$ in. stuff pinned together would answer well. It is held to the floor with screws from on top.

## Handle Portion

The handle consists of two pieces of  $\frac{1}{2}$ in. wood measuring 2ins. wide at the lower end tapering to  $1\frac{1}{4}$ ins. at the top where it is rounded over and made smooth and safe for handling. At a little distance down from the top end a shallow recess is cut to receive the cross bar or handle.

This handle bar should overlap the edges and therefore be made 14ins. long,  $1\frac{1}{2}$ ins. or 2ins. wide. Screws are used to make a firm fixing. Note how the lower ends of the handle uprights are cut to an angle to afford clearance for the wheels.

The pair of wheels can be supplied by Hobbies, Ltd. They are 4ins. diameter, of hardwood with broad rounded treads, ready for fixing with long screws. Washers are supplied and added each side of wheel.

Clean the woodwork at completion and paint two coats of green paint. The inside of the box might be creosoted, as also might the underside of the floor and the axle etc.

Pattern Sheets from back numbers of Hobbies are obtainable for 6d. each

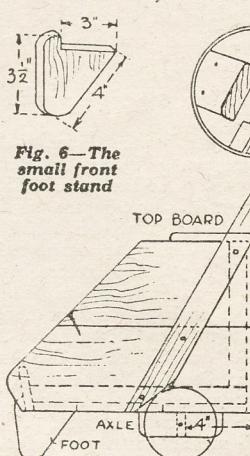


Fig. 1—Side view showing parts

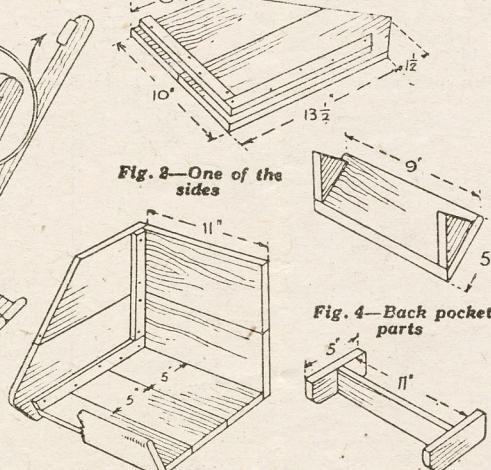


Fig. 3—The box construction

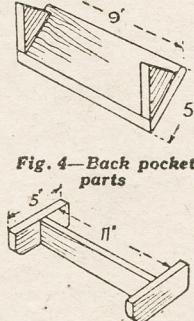


Fig. 5—Axle and bracket

# By the use of thin boards of different colours you can make PICTURES IN WOOD

BEFORE the war many of our readers thoroughly enjoyed the opportunity of making attractive pictures in wood by using several varieties to form an inlay picture. There was then, of course, a wide range of various coloured boards available in quite thin wood and these were used pinned together and cut out to form all manner of panels and picture subjects which greatly appealed.

It was another form of using the fretsaw which came as a variety from the more usual work with which it is undertaken.

## Colours in Wood

There is indeed still a demand for these inlay designs but it comes mostly from the fortunate countries overseas where different varieties of wood are more easily obtained. So far as we are concerned in the British Isles, the work is almost impossible.

The idea, however, can be exploited in quite a simple way with odd pieces of small wood—if only in two varieties.

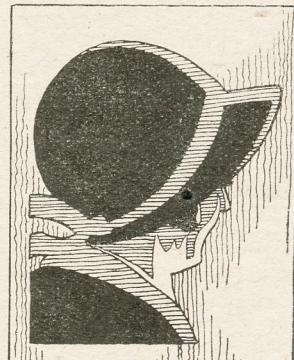
think fit. The method can be used to ornament small box lids or to incorporate in little pin trays and ash trays, or even to make up a picture or plaque. We give two examples here of the last mentioned, taken from advertising subjects which lend themselves to this particular style of work.

As you can see, light and shade is obtained in the various colours of the wood and the actual result largely depends on the variety you can obtain for this purpose. The finished work, of course, is given a coat of varnish or french polish—a method which is quite simple because the surface of the board finally is perfectly flat and lends itself thus to easy finish.

First of all, let us assume you are incorporating two small square panels



Two simple types of picture cut from three thin boards of varied colours



point. This means, of course, that four pieces in two pairs fall out.

Now you can go round the outer line which holds the "framework" together, coming out where indicated by the dotted line at B. This cuts away the waste wood containing the nails holding the parts together. You thus have now the two main pieces and the four small squares.

The next stage in the diagram shows

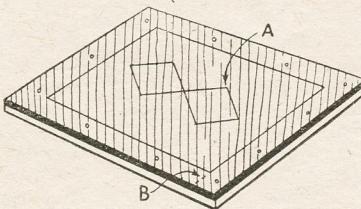
you the result which provides the inlay panel. In the dark board you can put the two little squares from the lighter wood and in the lighter wood frame you can place the small dark squares. Thus you have two complete subjects, each with inlaid central diamond or square-shaped patterns.

## Assembly

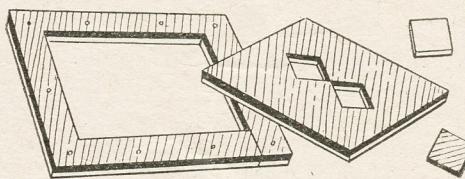
If a thin saw has been used the parts will virtually fit together very much as a jigsaw does, and when glued on to a board you have an attractive piece of flat work suitable for polishing for the final result.

You will realise it is essential to have a fine blade because, if a coarse one is used then a much wider cutting line is made and the parts will not fit

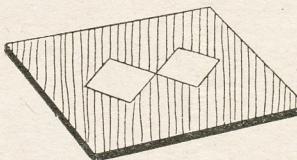
(Continued foot of page 19)



Two boards nailed together with design marked on the upper one



The centre diamonds, and then the panel are cut out from the surrounding frame



The idea can be utilized in simple forms of decoration and, indeed, allows the use of small odd pieces which would probably otherwise be wasted.

The process of cutting is very similar to the ordinary use of the fretsaw except that two pieces of wood are used at the same time instead of one only. The main point, of course, is to get the two varieties quite different—one light, one dark. A way in which they can be used is suggested here but readers will use their own ingenuity and ability in executing the work for any particular style or article they may have in mind.

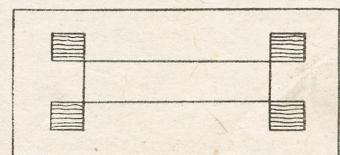
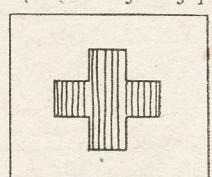
## The Method Explained

If we show you here the method, then no doubt many will be happy to undertake their own styles as they

as a central decoration for a larger background. The pieces of wood are nailed together with fret nails driven through the two boards outside the actual outline of the subject. This is seen in the diagram here where the whole process is laid out.

A small drill hole is made at the least conspicuous point and a very fine saw blade should be used if possible. The principal point to remember is that all the parts will be re-used so that the saw blade must maintain cutting on the line required, for no recut can be undertaken. Have the fretsaw quite tight in the frame and proceed carefully round the outline marked on the wood.

In the example the drill hole is made at point A and the saw-cut goes round the outline of the two squares to return again finally to its starting



Two suggested geometrical patterns

# Practical jobs in the home, in our helpful series of HOME METAL WORKING

THE third of our practical articles of metal work brings us to everyday repairs about the house. Most of the leaks in buckets occur in the bottom and may be roughly divided into three classes—slight leaks—larger holes—and worn patches.

To repair a slight leak, it is only necessary to scrape the part quite clean, removing the galvanising or enamel, apply flux, and solder over. When it is desired to solder a small hole, it is best first to tin round the leak, using the flat of the iron. If it does not tin very easily the first time, apply more flux and repeat the process. It may be necessary to scrape parts that are obstinate.

After the tinning, in order to prevent the solder from running away through the hole, elevate your iron, using only the tip and apply small portions of solder at a time, withdrawing the iron quickly. It is possible to fill up quite large holes in this manner (Fig. 1).

## To Repair a Large Hole

If the leak is too large to permit the use of the above method, it will be necessary to patch it.

With the shears, cut out a circular piece of material large enough to cover the hole and overlap about  $\frac{1}{4}$  in. on to the sound part of the bucket. Apply flux and, using the iron, tin over the whole of one side of the patch, leaving on a thick coating of solder. Tin the bucket as for small leak, covering an area rather larger than the patch, again leaving a coating of solder on the surface.

Place the patch in position, tinned side to leak, and apply the flat part of a well-heated iron. This will cause the coating of solder, on both patch and bucket, to melt and fuse together. While still molten, press the patch firmly on with a file, remove iron and allow the job to cool.

This is known as a sweated joint and is practicable for patches up to 1 in. in diameter or larger, depending on the size and heat transmitting capacity of your iron.

For a larger patch, it is only

## Non-Splash Water

Carrying a bucket filled with water is not too easy, and few can do it without splashing over the sides—usually over your legs. A simple preventive is to place a block of wood, with a fairly large surface, to float on top. This will effectively prevent the usual trouble.

necessary to tin the edges on both sides, and when in position, may be soldered round in the manner prescribed for a joint or seam (see Fig. 2).

## To Re-bottom a Bucket

If the whole bottom is worn, rusted or badly holed, it may be better to substitute an entirely new bottom. This is by no means as difficult as it would seem, and generally speaking, is to be preferred to patching.

With a piece of string, measure the inside diameter of the bucket, near the bottom. If the joint between sides and bottom is badly corroded, it will be better to insert the new bottom a little way above the old one, say, about 1 in. higher up. In this case, of course, you must measure the diameter at the appropriate place.

Next, mark out and cut a circle of the material to the required size. A good tip when using shears, is to always have the bulk of your metal to the right, and the narrower piece of scrap on the left, allowing the latter to curl upwards as you cut. You will do your cutting easily this way.

Try the circle in the bucket, marking where it fits. This will enable you to clean the exact portion of the bucket requiring soldering. Clean edges of bottom, apply flux to both sides—also on the bucket, insert—and solder smoothly round.

Test the soundness of your joint with water before putting away your tackle.

## To Reinforce a Bath

When a galvanised bath has seen much wear, it usually gets weak right round the joint between sides and bottom, and this is the first place that starts to leak. Remembering the old adage about a "Stitch in time", it is possible to forestall possible leaks by strengthening the joint with solder.

After scraping, cleaning, and applying flux in the prescribed manner, the joint must be soldered right round, but in a certain way, designed to leave a thick coating or "body" of solder for strength.

When carrying out this operation, it will be made much easier if you call in the assistance of your pal, as the actual soldering is, in this case, a two-handed job.

The idea is to thickly solder a small portion of the joint at a time, holding the stick of solder in the left hand and applying boldly to the iron. Like

other liquids, molten solder will find its own level. Therefore, it is necessary that the bath be tilted at the angle needed to allow the solder to form squarely across the joint.

Allow to set, move bath round a shade, and do another portion, taking care that each body of solder fuses well into the edge of the previous one, and so on right round the joint.

When you have finished you will have a body of solder at least a  $\frac{1}{4}$  in. thick to bolster up the joint and if the job is efficiently carried out, will lengthen the life of the bath by many years.

Wash tubs may be treated in the same manner, but the additional depth will make it awkward to use the ordinary straight iron, the usual method being to use a hatchet or spade type.

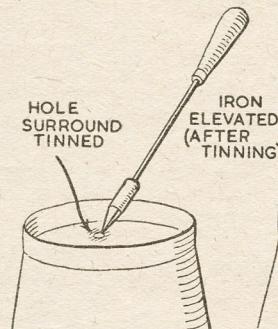


Fig. 1—Filling a hole

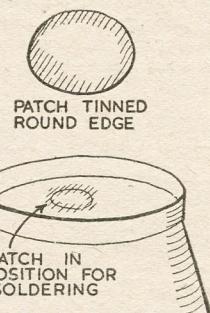


Fig. 2—Patching a bad place

## To Mend Spectacles

Even in these days of ultra-modern eyeglasses, many elderly persons still wear the old fashioned metal framed variety. These break very easily, but there is no need to go to the expense of new frames, as they can be soldered quite easily.

Clean the broken ends with fine emery cloth and lay out in their original line, resting on a flat piece of wood. Moisten with flux and, using the extreme tip of the iron, allow a very small blob of solder to unite them. This can be rendered inconspicuous by the judicious use of a smooth file, smoothing over with fine emery afterwards. It is surprising what a lot of knocking about a simple joint like this will stand.

Now that you have acquired the ability to solder, you will discover all kinds of jobs about the house that will enable you to make practical use of your skill.

Next Article—"A Handy Tooth-brush Rack".

# Paraffin and an old tin can be turned into a handy PERPETUAL LIGHTER

IT is a well-known fact that paraffin oil, unlike petrol, cannot be used as a fuel for a lighter. The flame is very smelly and sooty, and the ignition, from a flint spark, is not too good. How about a special "table" model of lighter, however, which has a perpetual sort of light using oil?

Let it be understood, at this point, that by the word "perpetual" we do not mean lasting forever. What is meant is that once the tiny wick has been ignited with a flame, it burns for a long time on one filling—possibly several days.

There is no "lampy" smell, because the flame is quite small—just a mere speck of light. And like a cigarette lighter, the body of the home-made table model is stuffed with cotton-wool. This wool is saturated with lamp-oil. By capillary action, the wick—mixed with the cotton-wool—absorbs a sufficient quantity of the oil to keep its wick alight. As the consumption is extremely low, one filling with oil should last many hours.

## Fed with Oil

Oil, compared with lighter fuel, is very cheap. Such a novel lighter, as illustrated, would be a useful item in a café or road house. It could sit on the counter, where any customer could take a light from it. It may also be used as a simple night light for a child's bedroom.

Due to the packing of cotton-wool and the small flame, such a night light is fire-proof, if accidentally knocked over on its side. When falling, even on its side, the light goes out. And there is no flow of oil from the wick spout.

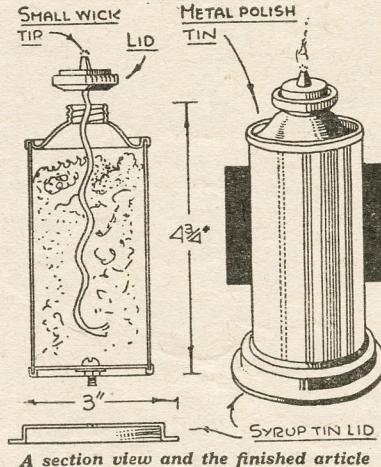
**Pictures in Wood**—(Continued from page 17)

together as they should to form a solid surface. Even in this case, however, you can rub in some fine sawdust and possibly squeeze glue into the part to make a solid fit.

The diagrams here give you alternative suggestions of simple geometrical designs which can be incorporated in all manner of ways. The picture of the girl's head and of the goat are, as you can see, more advanced subjects and are really carried out in three varieties of wood.

## Use Thin Wood

It is important, of course, that the wood you use should be fairly thin and if you can get any  $\frac{1}{16}$  in. boards they are the most suitable. You will realise that if you have, say, two boards  $\frac{1}{16}$  in. thick that means a total of  $\frac{1}{8}$  in. which is a little more difficult to operate upon. It does make it more simple if the outlines concerned are not straight lines; then if you do run off



A section view and the finished article

As can be seen from the diagram, a special sort of tin is used. It is nothing more startling than a common metal polish tin, such as the Brasso type. All you have to do is to clean out the tin. It will be necessary to remove the "grid" at the top of the neck.

## Bolted Base

A small quantity of paraffin oil, shaken up in the tin, will do much to clean out the old polish. When cleaned, turn up the bottom end of the tin and drill an  $\frac{1}{16}$  in. hole in it centrally. Now obtain a suitable machine bolt, preferably a mild steel one, and sticking it to the end of a screwdriver, insert the screw through the hole, put on a felt washer, then a nut, as shown in the sectional view.

If you have trouble in trying to stick the head of the bolt to your

the cutting mark the error is not so obvious.

## Machine Worker's Advantage

The machine worker has a very big advantage in cutting these pictures because the saw is maintained vertically for him; the handframe worker must be particularly careful to hold the frame upright or obviously the second pieces will not fit in place correctly. The user of the machine, too, can further ensure accuracy by means of tilting his cutting table slightly.

This can be done by loosening the wing nuts under the table and depressing one edge slightly before retightening the nuts. The actual angle of tilt is very slight and must, of course, vary according to the thickness of wood being operated upon. No definite angle can be given but a trial will soon prove what is required.

The idea in this is that the second

screwdriver, remember that the screw could be magnetised by stroking it on a powerful magnet a few times. It will cling to the screwdriver. Some hard beeswax, however, scraped into the screw head nick, and the tip of the screwdriver pressed into it, will enable the bolt to be stuck temporarily to the screwdriver.

The bolt is for attaching the base plate to the bottom of tin, the plate being a 3 in. diameter syrup (or paint) tin lid, inverted. Bore a central hole in it, then affix on with a nut.

## The Packing

Having that done, the tin can be enamelled brightly. Meantime, prepare the lid. This needs to be fitted with a wick spout. A simple spout could be easily made from the valve from a bicycle inner tube. A portion of it could be soldered to the lid.

In fact any small bore pipe could be soldered to the lid. The pipe must take an ordinary lighter wick. The wick should be packed in with the cotton-wool, with sufficient at the top for fitting into the wick spout and twisting on the lid. The wick must also be trimmed so that it gives a tiny sootless flame.

The best sort of long-lasting flame should be a bluish colour. A white flame with sooty smoke is wrong. Trim the wick until you get the smallest possible speck of light. Have the packing thoroughly saturated with paraffin oil, but do not overdo the filling. Use just the maximum amount. Once the wick is ignited, it should keep alight for 24 hours. Everything depends on the size of the light, and the size of your tin. The usual size is given. Any similar type of tin may be utilized in the same way.

piece is slightly larger than the first, and in being put into the other piece presses into the part and so fills up the hole entirely. In doing this the cut has to be maintained in one direction going from left to right or vice versa throughout the whole operation. The actual slope on the edge of the wood is just sufficient to allow the lower piece to be pressed upwards into the upper part, until level with the surface.

Having once tried out the method, you will see it is comparatively easy and certainly makes for a distinctive and attractive work. By a study of drawings and advertisements you can soon pick out subjects which are suitable for incorporating into practical pieces of work, and thus provide a pleasing change in the use of the fretsaw and the results which it will bring.

What about incorporating the idea into making small Calendar Christmas Cards?

# How to cut out and construct a modern type PLASTIC TRINKET BOX

**R**EADERS who are interested in the new plastic work may like to make the novel trinket box illustrated. It is just the thing for the dressing table, and would make an acceptable gift. It is suggested to use Perspex, a description of plastic material, made in pleasing colours, also transparent, and quite easy to work. Readers can of course please themselves as to colours, or clear, for making the box. In either, a handsome article can result which the sketch cannot do justice to.

A pattern for the sides is given in Fig. 1. This should be copied on thin paper, doubled, with carbon paper between to produce two copies. First draw a rectangle the size given. At the centre, with compasses strike the semicircle, then mark off the points, right and left, for the small circles and strike both. These circles are  $\frac{1}{8}$  in. diameter.

### Cutting Out

The patterns can now be lightly gummed to the Perspex and then cut out with a fretsaw. When cut, lay the Perspex in warm water for a few minutes, then strip off the paper patterns and clean away, by washing, any traces still remaining of the gum.

Fig. 2 shows dimensions of the remaining parts of the box. The ends of the box are in one piece, A. Cut this accurately to the size given. It has

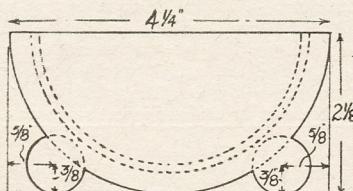
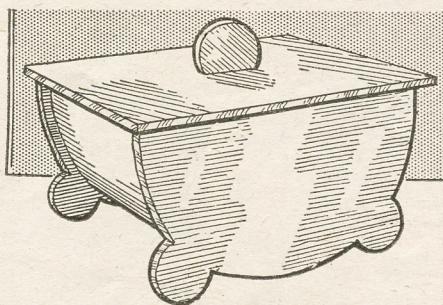


Fig. 1—Side pattern to mark

now to be bent to a semicircle and be cemented to the sides of the box where shown by the dotted marks in Fig. 1.

### Bending Practice

It is as well, before starting to do the bending, to practice a little on a spare scrap of the material, as it is desirable to have a little experience in this part of the work first. The best method of heating is to grip the stuff



with pliers and hold it over a gas jet or oil stove for a while. Too much heat is not wanted, as the material is liable to blister; this is where a little experience is so valuable. Details of the operation have been dealt with in earlier articles in these pages.

As soon as the Perspex is hot enough to bend, it will slightly sag. Then it should be held at each end, using a cloth as the stuff is too hot to handle without, and be bent to a semicircle round a two pound jam jar, which happens to be just the right diameter.

It is advisable to warm the jar first, in case the hot Perspex cracks it. Get a friend to hold the jar bottom upwards on the table, then press the Perspex round it, as in Fig. 3. Before

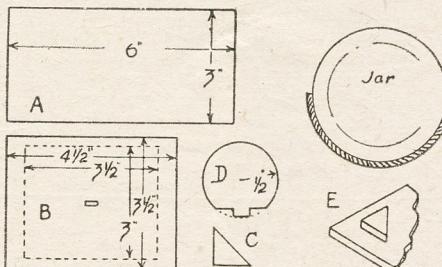


Fig. 2—Other box parts

Fig. 3—Shaping the curve

it gets cold, slide it down the jar to touch the table to make sure the bend is a true semicircle, and edges "in winding."

When cold and set, clean the edges of the bend, making them quite flat. Lay one of the side pieces across it and see if the edges touch all round. Correct any inequalities, then if contact is satisfactory apply a little of the special Perspex cement to the

### October Anniversaries—(Continued from page 21)

showing Pierre and Marie Curie—their portraits with a laboratory as the background. Jacques Cartier with his sailing ships in the background. Ampère with the words "Electricity" and "Physics" carefully

placed at the sides. Then Pilatre de Rozier with his balloon in the background. Pasteur looks at a test tube, Berlioz with his name on the music as though it was the title. Victor Hugo having books at his side and the

edge (one side only first), of the bend lay on the side piece. Get it accurately placed, then lay a book on to keep it down until the cement hardens, which it quickly does.

When right, cement the second side piece on and weight down as before. Leave for a while and in the meantime prepare the rest of the box parts comprising the pieces forming the lid.

### The Lid

The lid is in two pieces, one of which being smaller than the other and cemented to it underneath, forms a rim. Both are shown at B in Fig. 2, the smaller one being drawn in dotted lines in the larger one to save space. In the larger one, the top piece of the lid naturally, saw out a mortise slot  $\frac{1}{8}$  in. by  $\frac{1}{8}$  in. for the handle to enter in.

Now try the smaller one in the box, it should just fit the opening nicely, not too tightly. If satisfactory, cement the two lid pieces together. No need to spread the cement all over the surface, a little, say a  $\frac{1}{8}$  in. strip all round, will be enough.

As Perspex is rather expensive, an economy in material can be effected here by cutting four angular pieces of the Perspex to the shape, C. Cement one at each corner of the lid, underneath, as at (E). Fig. 3, in place of the smaller rectangle of the lid that is suggested above, to make the rim. The pieces can be quite small, say  $\frac{1}{8}$  in. each way, and will act efficiently, but they must be accurately positioned for the lid to fit correctly on.

### The Handle

The last piece to make is the handle, D. This is a  $\frac{1}{8}$  in. diameter disc of the Perspex, with a tiny piece cut away each side at the bottom, to leave a  $\frac{1}{8}$  in. long tenon, as shown. This could be first marked out on paper and stuck down to the material, as done for the sides before. It is quite an easy method. File the tenon to fit closely to the mortise in the lid, then cement the handle in place.

It may be mentioned here that the measurements given are for making the box in a plastic  $\frac{1}{8}$  in. thick. When finished, polish the box, especially the edges, with the special polishing mediums to be bought for the purpose, and an artistic piece of work should be the reward.

stamp we speak about first with the name Cezanne on an artist's palette. You should look for these clever ideas which so frequently appear in the designs of the stamps you collect.



MANY stamps are issued to commemorate some function, the birthday or death of some famous man, some battle or some change in government and this month is exceedingly well supplied with such events, and which are noted by particular issues.

The first stamp anniversary in October comes on the 2nd, for it was on that day that President von Hindenburg was born in the year, 1847. Germany has commemorated this man more than once. First in 1927 on the occasion of his 80th birthday, again in 1928 and 1932. The last was re-issued with a black border as a memorial stamp in 1934. Hindenburg stamps are very common so we will not use valuable space illustrating them.

On the 4th October, 1669, Harmen van Ryn Rembrandt died aged 63. The stamp illustrated was issued by Holland in 1930 where you see Rembrandt himself and in the background his painting De Staalmeesters. In 1941 the same country produced a stamp showing his son Titus.

The next day of the month was when Portugal was proclaimed a Republic in 1910. Previous to this King Manuel was on the throne, but on the proclamation of a Republic the stamps bearing the King's



Anatole France—Oct. 13th

portrait were overprinted "Repubblica"—the second illustration shows a specimen.

October 12th, 1915, was the date on which Nurse Edith Cavell was shot; many of you will have heard the broadcast recalling the events which led up to this. It is to the stamps of Canada that we turn for a reminder of this anniversary. The 1 dollar stamp of the 1930 issue gives a picture of the mountain named after Nurse Edith Cavell in the Canadian Rockies.

October 12th is also America's Columbus Day.

October 13th is the anniversary of the death of Anatole France who passed away in 1924. He was a famous French writer whose works have been translated into English—to mention a few—The Crime of Sylvestre Bonnard, Penguin Island, The Gods are Athirst.

His portrait is shown on the French stamp of 1937, issued as one

## OCTOBER ANNIVERSARIES

Governor General of the Dutch East Indies, a man named Anton van Dieman. So now you see why it was that the Island was first named Van Dieman's Land.

One of the most beautiful stamps that has ever been produced commemorates the event of October 29th. This is the fifth illustration and it was issued in 1935, by Trinidad. Another similar stamp, but slightly larger, having the addition of the portrait of



Rembrandt—Oct. 4th      A Republic—Oct. 5th      Sir Walter Raleigh—Oct. 23rd

of two stamps to assist the fund for unemployed intellectuals. This stamp, which is illustrated, should have special appeal for autograph hunters.

Some of you may have wondered why the stamps of Greece should have the portrait of an Englishman. Actually there are two—Byron and Sir Codrington. The former belongs to another date but the Sir Codrington stamp is one of the set issued in 1927 to commemorate the battle of Navarino which took place 100 years previously. One value has a picture of the naval vessels of that time in action. The reason is that the Turks captured Navarino or Pylos in 1825 and on October 20th, 1827, the British, French and Russian fleets destroyed the Turkish and the Egyptian fleets and thus secured the independence of Greece.

The next day, October 21st, also commemorates a naval battle and one that is far better known to the inhabitants of this country. In 1805 the British fleet under Nelson defeated the French and Spanish fleets at Cape Trafalgar. The stamp which commemorates this is from Barbados and shows the first monument to Lord Nelson. This stamp is one of a set of seven and was issued in 1906.

On the 22nd October, 1659, Tasman died. Although one cannot point to any special stamp as commemorating his death, yet all the stamps from Tasmania must be considered as doing so. Tasman was a Dutch explorer who was sent out by the

King George VI, was issued in 1938. The design shows the discovery of Lake Asphalt by Sir Walter Raleigh who used this stuff to caulk his ships when he called there in 1595. Sir Walter Raleigh died in 1618, on October 23rd.

Another French stamp shows a portrait of Paul Cezanne, a painter who died on October 23rd, 1906. A stamp which was issued to commemorate his birth in 1839 will be used in this instance to recall his death on the 23rd. Here it would be as well to remember that France has issued many stamps to commemorate great men and she has done so very well indeed.

Consider some of these stamps,



Lord Nelson—Oct. 21st

although they are not necessarily October stamps. The issue for the International Cancer Fund of 1938

(Continued on foot of page 20)

PERSONS required to make ladies' belts and fancy goods in spare time.—Dept. 3, Somat Plastic Co., Ltd., 8 Middle Marsh, Nottingham.

A GREAT new system which enables you to receive two stamps for the price of one. At last boys, this is it. Don't miss this opportunity. Write to—R. T. Akers, X. Dept., 6 Worcester Rd., Redditch, Worcestershire. Enclose 2½d. stamp for postage.

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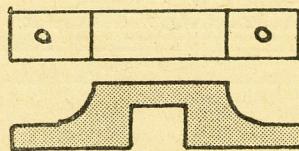
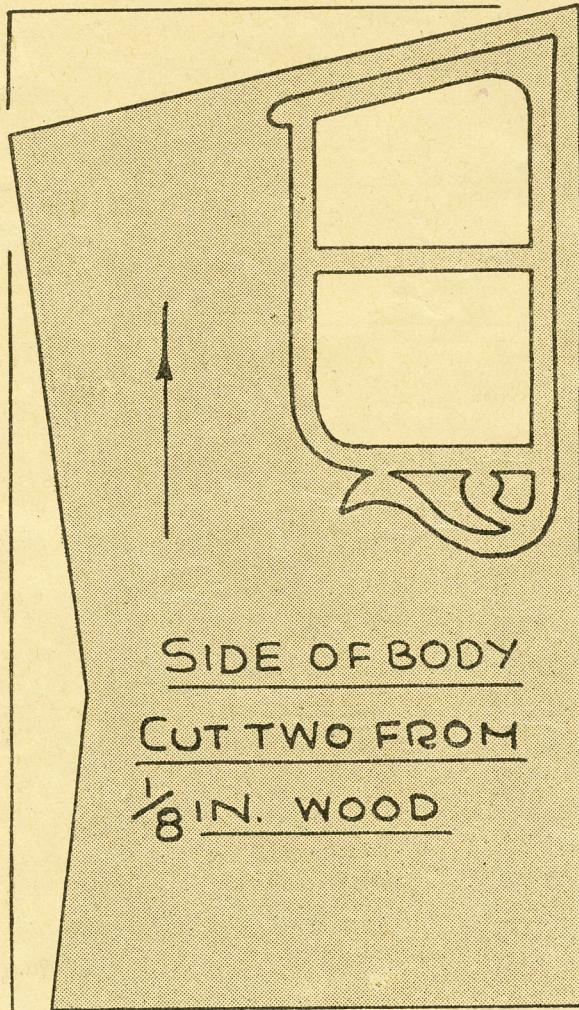
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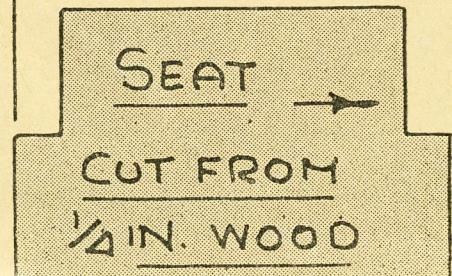
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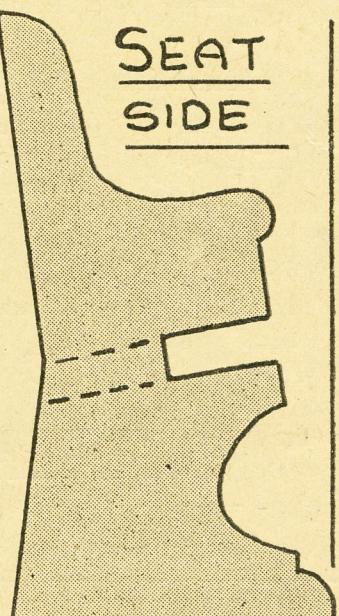
See page 13



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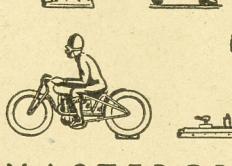
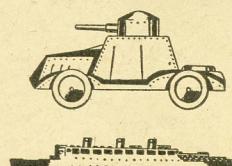
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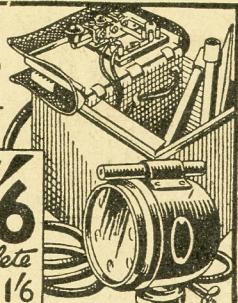
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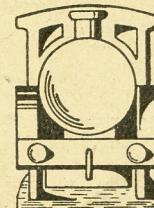


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